

COMENIUS PROJECT

First common task – Analysis of tap water

Let tap water run for three minutes. Then fill 300ml water in a beaker with 400ml capacity. Perform the following tests with this water!

1) Measurement of temperature

Measure the temperature of our tap water!

2) Measurement of pH

Determine the pH of our tap water using pH paper! Use a Pasteur pipette for the water!

Is water an acidic solution (pH less than 7), neutral solution (pH is 7) or basic (= alkaline) solution (pH is greater than 7)?

3) Measurement of hardness

Pour 5ml of water in the tiny measuring vessel. Add three drops of the indicator fluid and stir the liquid. Your solution should change colour to red. Fill the syringe with the solution for titration by pulling the plunger out so that the black mark is slightly above the 0°dH (German Degrees) mark. Titrate (drop by drop and stir well after each drop) till the solution changes its colour from red to grey-violet and finally to green. Then you can see the water's hardness under the lower edge of the black mark.

4) Transparency

Use the laser to determine if our water is transparent!

It is so, if you can't see red points in the water but only on the glass of the beaker when the laser beam gets through your beaker with water.

5) Cl⁻ (chloride) ions

Does tap water contain chloride ions? Test with silver nitrate (AgNO₃)! Use tiny test tubes (12x75)!

You get white sediments when you add silver ions to a solution which contains chloride ions. To see the difference test distilled water and distilled water with a little bit of table salt (sodium chloride, NaCl) on chloride ions! In the first case the test should be negative (no white sediments), in the second case it should be positive (white sediments).

Everybody has to write a **report** about this lesson as you are used to do in NAWI! Hand it in via **LMS!**

The report should be written on the computer. It should contain the following items:

name, partner, date, title, photo or drawing, equipment, description, results (if needed in tables), conclusions (that is explanations based on theory you know or which is mentioned above), possible sources of error.

Additional: Compare your results (if possible) with data from the internet (for example the homepage of the WLV Nördliches Burgenland)!

Vocabulary

tap water	Leitungswasser	plunger	Stempel einer Spritze
beaker	Becherglas	drop	Tropfen
capacity	Fassungsvermögen	syringe	Spritze
determine	bestimmen	laser beam	Laserstrahl
measure	messen	test tube	Reagenzglas
hardness	Härte	sediment	Niederschlag (Feststoff in Flüssigk.)
vessel	Gefäß	report	Protokoll
stir	durchmischen	(Pasteur) pipette	Pasteurpipette